

REMARKS

Claims 1-3, 5, 6 and 8-15 are pending. Claims 4, 7 and 16-21 have been canceled.

Claims 1, 8, 9 and 10 are amended herein. Claim 22 has been added.

Applicant confirms the oral election of Group II, claims 1-15 made during a conversation with the Examiner on September 17, 2003. As such, all other claims have been canceled from this patent application.

Claims 1-15 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, claim 1 is rejected as being incomplete for omitting essential steps. Claim 1 is also rejected as including relative claim phraseology, which renders the claim indefinite. Claims 1 and 12 have also been rejected as being vague and indefinite. The Examiner argues that the phrase "chemical compounds" is not clear.

Claim 1 has been amended to clarify that the highly phosphorylated mannopyranosyl oligosaccharide compound is coupled to the glycoprotein having at least one glycan.

The Examiner also argues that the phrase "highly phosphorylated mannopyransyl oligosaccharide" is relative because the specification does not provide a standard for ascertaining the requisite degree of phosphorylation of the mannopyransyl oligosaccharide, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner's attention is directed to page 11 of the specification where the phrase "highly phosphorylated" is defined. As used in the specification, the phrase refers to a characteristic of oligosaccharides that are coupled to glycoproteins, or to other compounds according to the

methods described in the specification, wherein the oligosaccharides contain at least one M6P group. The Examiner is reminded that the Applicant is his own lexicographer. *In re Swinehart*, 439 F. 2d 210, 160 USPQ 226 (CCPA 1971). In fact, when the specification states the meaning of a claim term, the claim must be examined using that meaning. *In re Zletz*, 893 F.2d 319, (Fed. Cr. 1989). As such, as used in the claims and the detailed description of the invention, the phrase is not related to the sites at which the mannopyranosyl oligosaccharide is phosphorylated. Therefore, the specification need not provide a standard for determining the degree of phosphorylation of the mannopyranosyl oligosaccharide. In accordance with the specification, an oligosaccharide is highly phosphorylated if it comprises one or more M6P group. The number or position of the M6P group is irrelevant to the practice of the invention.

With regard to the Examiner's argument that the phrase "chemical compound" is indefinite, claim 1 has been amended to delete that reference. Claim 12 depends from claim 1 and therefore incorporates all of the limitations therein. Therefore, it is submitted that claims 1 and 12 particularly point out and distinctly claim the subject matter, which Applicant regards as the invention.

Claims 4 and 7 are rejected as being indefinite for failing to distinctly articulate how such a recitation further limits the method from which the depend claim depends. Claim 10 is rejected as including a relative phrase, which renders the claim indefinite. Claims 4 and 7 have been canceled herein.

Claim 10 has been amended to remove the relative terminology from the claim. Therefore, it is submitted that claim 10 also particularly points out and distinctly claims the subject matter, which Applicant regards as the invention.

For all of the above reasons, Applicant submits that claims 1-3, 5, 6 and 8-15, as amended, particularly point out and distinctly claim the subject matter that Applicant regards and the invention. As such, Applicant respectfully requests that the rejection of claims 1-3, 5, 6 and 8-15 under 35 U.S.C. §112, second paragraph, be withdrawn.

Claims 1-15 are rejected under 35 U.S.C. §103 (a) as being unpatentable over Tovanen et al. in view of Monsigny et al. Applicant traverses the rejection.

Tovanen et al. is directed to the synthesis of glycosylhydrazines of various mono- and oligosaccharides by covalently attaching different mono- and oligosaccharides to the cell surface of glycoproteins and glycolipids. Tovanen does not describe or suggest reacting an oxidized glycoprotein with a derivatized highly phosphorylated mannopyranosyl oligosaccharide compound, to form a new compound having a hydrazone bond. Monsigny et al. is directed to compounds comprising one or several oligosides, each oligoside being fixed in a covalent manner on one or many molecules, matrixes or particles via an intermediary molecule possessing a nitrogen atom carried by a carbonyl group. Monsigny et al. does not disclose or suggest reacting an oxidized glycoprotein with a derivatized highly phosphorylated mannopyranosyl oligosaccharide compound, to form a new compound having a hydrazone bond.

Claim 1 is not obvious in light of Tovanen et al. in view of Monsigny et al. The Examiner argues that even though the step of reacting the glycoprotein with the derivatized phosphorylated mannopyranosyl oligosaccharide is not taught or suggested in the prior art, claims 1-15 are obvious in light of the prior art because Tolvanen et al. teaches the coupling of glycosylhydrazines to periodate or galactose oxidase treated cell surface glycononjugates and Monsigny et al. discloses the coupling of biantennary or triantennary mannopyranosyl

oligosaccharide containing the mannose 6-phosphate to a protein, one skilled in the art would have a reasonable expectation for success in combining both references to accomplish the claimed method. The Examiner argues that the motivation to do so is provided by Tolvanen et al., which, he states, suggests that the glycosylhydrazines can be covalently coupled into oxidized cell surface glycoproteins without affecting their biological activities. However, Applicant respectfully points out that even if that were the case, and it is not, to establish a *prima facie* case of obviousness, the prior art references when combined must teach or suggest all of the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). The Examiner has not established a *prima facie* case for obviousness of the method of amended claim 1 because the references do not, alone, or in combination, teach or suggest all of the claim limitations of amended claim 1.

Claim 1, as amended, is directed to a method comprising "derivatizing the highly phosphorylated mannopyranosyl oligosaccharide compound with a chemical compound containing at least one carbonyl-reactive group; oxidizing the glycoprotein having at least one glycan to generate at least one carbonyl group on the glycoprotein; and reacting the oxidized glycoprotein with a carbonyl group with the derivatized highly phosphorylated mannopyranosyl oligosaccharide compound, thereby coupling the highly phosphorylated mannopyranosyl oligosaccharide compound to the glycoprotein having at least one glycan to form a new compound having a hydrazone bond." In fact, the Examiner admits that neither references discloses the claimed step of reacting the oxidized glycoprotein with the derivatized highly phosphorylated mannopyranosyl oligosaccharide compound to form the new compound having a hydrazone bond. Since, each and every element of amended claim 1 is not found in the cited

references, either alone, or in combination, claim 1 is patentable over the cited references.

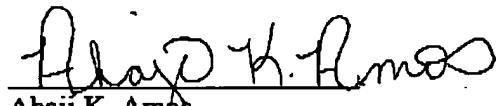
Therefore, it is submitted that claim 1 is unobvious in light of Tolvanen et al. in light of Monsigny et al., and Applicant respectfully requests that the rejection of amended claim 1 under 35 U.S.C. § 103 (a) be withdrawn.

Claims 2-3, 5, 6 and 8-15 depend from amended claim 1, and therefore, incorporate all of the subject matter therein. Since it is submitted for the aforementioned reasons that amended claim 1 is patentable over Tolvanen et al. in view of Monsigny et al., is it likewise submitted that claims 2-3, 5, 6 and 8-15 are patentable over the references for the same reasons. Accordingly, it is respectfully requested that the rejection of claims 2-3, 5, 6 and 8-15 under 35 U.S.C. §103 (a) be withdrawn.

Applicant believes that the arguments asserted and the amendments presented herein place the application in condition for allowance. If the present amendments and arguments do

not place the application in condition for allowance, the Examiner is respectfully requested to contact the Applicant's undersigned attorney by telephone at (314) 872-8118.

Respectfully submitted,



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